

CLAIMS:

1. A fluid flow stabilizer for use in a flow of fluid in a conduit between a turbulence creating device and a fluid control device, comprising:
 - a fluid conduit section having a first end for mounting said first end to said fluid conduit and a second end for mounting said second end to said fluid conduit, said fluid conduit section having a fluid passage therethrough to allow fluid to flow from said first end to said second end,
 - a flow straightening device positioned in said fluid conduit section;
 - said fluid conduit section being constructed to absorb at least one of shock, vibration and alignment in said conduit.
2. The fluid flow stabilizer of claim 1, wherein said flow straightening device comprises one or more longitudinally extending vanes.
3. The fluid flow stabilizer of claim 1, wherein said fluid conduit section comprises a flexible metal hose.
4. The fluid flow stabilizer of claim 1, wherein said fluid conduit section comprises an elastomeric material.
5. The fluid flow stabilizer of claim 1, wherein said fluid conduit section has a length and an internal diameter, with said length being less than five times the diameter.

6. A pipe flow stabilizer for use in a pipeline between a turbulence creating device and a fluid control device, comprising:

a fluid conduit section having a first end with a mounting arrangement for mounting said first end to said pipeline and a second end with a mounting arrangement for mounting said second end to said pipeline, said fluid conduit section having a fluid passage therethrough to allow fluid to flow from said first end to said second end,

a flow straightening device in said fluid conduit section;

said fluid conduit section being constructed to absorb at least one of shock, vibration and alignment in said pipeline.

7. The pipe flow stabilizer of claim 6, wherein said turbulence creating device is a pump and said mounting arrangement at said first end is configured to mount directly to an outlet of said pump.

8. The pipe flow stabilizer of claim 6, wherein said fluid control device comprises a valve and said mounting arrangement at said second end is configured to mount directly to an inlet of said valve.

9. The pipe flow stabilizer of claim 6, wherein said conduit comprises a flexible metal hose.

10. The pipe flow stabilizer of claim 6, wherein said conduit comprises an elastomeric material.

11. The pipe flow stabilizer of claim 6, wherein said flow straightening device comprises at least four vanes, with each vane arranged perpendicular to adjacent vanes.

12. The pipe flow stabilizer of claim 11, wherein said vanes are contained entirely within the length of said fluid conduit.

13. The pipe flow stabilizer of claim 11, wherein said vanes have a hydrodynamic shape.

14. The pipe flow stabilizer of claim 6, wherein at least one of said first mounting arrangement and said second mounting arrangement comprises a flange with a series of spaced bolt holes extending therethrough.

15. The pipe flow stabilizer of claim 6, wherein said fluid conduit section has a length and an internal diameter with said length being less than five times the diameter.

16. A pipe flow stabilizer for use in a pipeline between a pump and a valve, comprising:

a pump connector having a first end with a first mounting arrangement for mounting said first end to said pump and a second end with a second mounting arrangement for mounting said second end to said valve, said pump connector having a fluid passage therethrough to allow fluid to flow from said first end to said second end, and a flow straightening device in said pump connector.

17. The pipe flow stabilizer of claim 16, wherein said pump connector is constructed to absorb at least one of shock, vibration and alignment in said pipeline

18. The pipe flow stabilizer of claim 16, wherein said pump connector comprises a flexible metal hose.

19. The pipe flow stabilizer of claim 16, wherein said pump connector comprises an elastomeric material.

20. The pipe flow stabilizer of claim 16, wherein said flow straightening device comprises one or more vanes extending longitudinally in said conduit.

21. The pipe flow stabilizer of claim 20, wherein said flow straightening device comprises four vanes, with each vane arranged perpendicular to adjacent vanes.

22. The pipe flow stabilizer of claim 20, wherein said vanes are contained entirely within the length of said pump connector.

23. The pipe flow stabilizer of claim 16, wherein said pump connector has a linear fluid conduit section with a length and an internal diameter, said length being less than five times the diameter.

24. A pipe flow stabilizer system for use in a pipeline having an upstream turbulence creating device and a downstream fluid control device, comprising:

a turbulence reducing device arranged to allow fluid flow therethrough and to impart a rotational motion to said fluid, with mounting arrangements to permit said turbulence reducing device to be positioned upstream of said turbulence creating device,

a fluid conduit having a first end with a mounting arrangement for mounting said first end to said pipeline downstream of said turbulence creating device and a second end with a mounting arrangement for mounting said second end to said pipeline upstream of said fluid control device, said fluid conduit having a fluid passage therethrough to allow fluid to flow from said first end to said second end, and

a flow straightening device in said fluid conduit.

25. A method for reducing turbulence of fluid flow entering a pump arranged in a pipeline, wherein an elbow is arranged upstream of said pump, comprising the steps of:

attaching a turbulence reducing device upstream of said elbow,
attaching said elbow upstream of said pump,
flowing a fluid through said pipeline and first through said turbulence reducing device, then through said elbow and then through said pump.

26. The method according to claim 25, further including the steps of attaching a flow straightening device downstream of said pump and flowing said fluid through said flow straightening device after it has flowed through said pump.